

**Meeting of the Central Valley Flood Protection Board
7-23-10**

Staff Report

**West Sacramento Levee Improvement Program Phase 1A Project-
approval to send a Section 104 request letter to the U.S. Army Corps of Engineers**

1.0 - BOARD ACTION

Consider delegation to the Board Executive Officer to issue a letter to the Sacramento District, U.S. Army Corps of Engineers (USACE) requesting federal Section 104 credit for State and local funds to be expended allowing improvement work along the Sacramento Bypass South Levee and a portion of the Sacramento River West Levee to be constructed during the summer of 2011.

2.0 - APPLICANT

West Sacramento Area Flood Control Agency (WSAFCA)

3.0 - LOCATION

The two Early Implementation Program (EIP) projects are located in the City of West Sacramento, Yolo County. The Rivers Project is located along the Sacramento River West Levee and the CHP Academy Project is located along the Sacramento Bypass South Levee. (see Attachment A).

4.0 - DESCRIPTION

Traditionally, the USACE constructs flood control projects and requires payment of a “non-federal share”. In California, that “non-federal share” is usually split between the State and the local sponsor. Where projects are not yet congressionally authorized, or where the project is authorized but the USACE does not have funds to construct the project, local agencies may seek to construct projects in advance of the USACE. In these circumstances, the State requests that the funds it expends act as a “credit” toward the non-federal share for future work to be performed by the USACE. The credit authority most familiar to the Board is known as Section 104 credit, and is authorized by Section 104 of the Water Resources Development Act (WRDA) of 1986.

Section 104 provides that for projects not yet authorized, where the local agency seeks credit, the State shall request a credit pre-approval prior to start of work (this has since be interpreted as prior to “contract award”). The actual credit is then determined by the USACE Secretary after construction and after authorization of the project. The credit,

once determined, is used by the State and local sponsor to offset what would otherwise be required as a cash payment by the State and local sponsor to the USACE for construction performed by the USACE.

5.0 - BACKGROUND

Surrounded by water during the winter months, the City of West Sacramento (City) depends on levees for the safety of its residents. In 2005 the USACE completed levee improvements authorized through the *West Sacramento Project* that were intended to provide the City with greater than 100-year flood protection. Unfortunately, these levee improvements, recommended as part of the *Sacramento Metropolitan Area, California, General Reevaluation Report* dated February 1992, did not consider the underseepage deficiencies facing many of the levees which protect the City. Although the levee improvements authorized for construction were redesigned to address underseepage, the remaining levees which protect the City were not reevaluated to determine whether they were adequate to withstand the design flood event with regards to under-seepage, through-seepage, stability and erosion. Further, the geotechnical engineering and risk analysis standards being applied to urban levees in the post-Katrina environment have raised additional doubt regarding the actual level of protection afforded to the City by the existing flood protection infrastructure. Outlined in Senate Bill 5 (SB5), the California Legislature has established flood protection from the 200-year storm event as a minimum requirement for urban communities.

WSAFCA, in cooperation with the Department of Water Resources, has moved forward with several Early Implementation Program (EIP) projects to address deficiencies in the West Sacramento levee system in advance of associated USACE sponsored projects. A primary goal of the West Sacramento Levee Improvement Program (WSLIP) is to provide the City of West Sacramento with 200-year (or greater) urban standard flood protection. The levee improvements scheduled for “The Rivers” and “The CHP Academy” projects constitute Phase 1A of the WSLIP and are a crucial step toward providing the necessary flood protection to the residents and damageable property in West Sacramento.

The specific work described by WSAFCA for each project is as follows:

The Rivers

The levee segment selected for improvement is approximately 3,000-feet long and is located along the right bank of the Sacramento River, starting at the downstream end of the State of California Department of Water Resource Maintenance Yard located in the neighborhood of Bryte and terminates in the widened levee section just before the water side homes on River Crest Drive. The area surrounding the project site is primarily residential urban development. The current project site consists of an earthen levee with a crown width of approximately 20 feet and a waterside berm that varies in width from 100 to 400 feet. The elevation of the existing levee throughout the project

extents ranges from approximately 39.8 feet to 44.1 feet (NAVD88). In all cases, this elevation is more than 3 feet higher than the 200-year design water surface elevation of 39.5 feet for this location in the Sacramento River. Numerous utility penetrations through the levee were identified within the project limits; and several waterside residences exist within the downstream portion of the site.

The levee improvement plan includes a combination of levee reconstruction measures necessary to correct under-seepage, through-seepage, stability, levee geometry, vegetation, and encroachment issues. The primary levee reconstruction measures will include installation of a seepage cutoff barrier along the entire extent of the project, as well as levee grading, including slope flattening, to correct identified slope stability issues. Encroachments and vegetation within the project site will be removed or reconfigured, as necessary, to comply with current USACE and Central Valley Flood Protection Board policy. The final bid set and design document report will be completed in July 2010. The USACE is scheduled to provide federal credit approval in January 2011. The CHP Academy project will be awarded once federal credit is secured. The project is anticipated to begin construction in the spring of 2011.

CHP Academy

The levee segment selected for improvement is approximately 5,620-feet long. It extends from the Sacramento Weir 5,620 ft west along the south levee of the Sacramento Bypass. The area south of the project site is occupied by the California Highway Patrol (CHP) Academy. The project site consists of an earthen levee with a crown width of approximately 20 feet. The levee segment along the Sacramento Bypass has a landside berm constructed as part of the USACE West Sacramento Project Levee Reconstruction Project Contract B, 1999. Other Contract B levee improvements that fall within the extent of the CHP Academy EIP site include a waterside toe soil bentonite cutoff wall and an interior drain. The elevation of the existing levee along the Sacramento Bypass ranges from approximately 38.1 feet to 40.3 feet (NAVD88). In all cases, this elevation is more than 3 feet higher than the 200-year design water surface elevation for the Sacramento Bypass. The 200-year design elevation for the top of levee (TOL) is below the previously authorized and accepted TOL for the West Sacramento Project.

The levee improvement plan includes levee reconstruction measures necessary to correct under-seepage, through-seepage and stability deficiencies. The project proposes slope flattening and installation of a cutoff wall to correct for stability and seepage deficiencies, respectively. Vegetation within the project extents will be modified, as needed, to comply with current USACE policy. The final bid set and design document report will be completed in July 2010. The USACE is scheduled to provide federal credit approval in January 2011. The CHP Academy Project will be awarded once federal credit is secured. The project is anticipated to begin construction in the spring of 2011.

6.0 - AUTHORIZATIONS

Federal: WRDA 1986 (Public Law 99-662)
WRDA 1992 (Public Law 102-580)
WDRA 1999 (Public Law 105-245)
Flood Control Act of 1962 (Public Law 87-874)

State: California Water Code Sections 12670.2, 12670.3 and 12670.4

7.0 - STAFF RECOMMENDATION

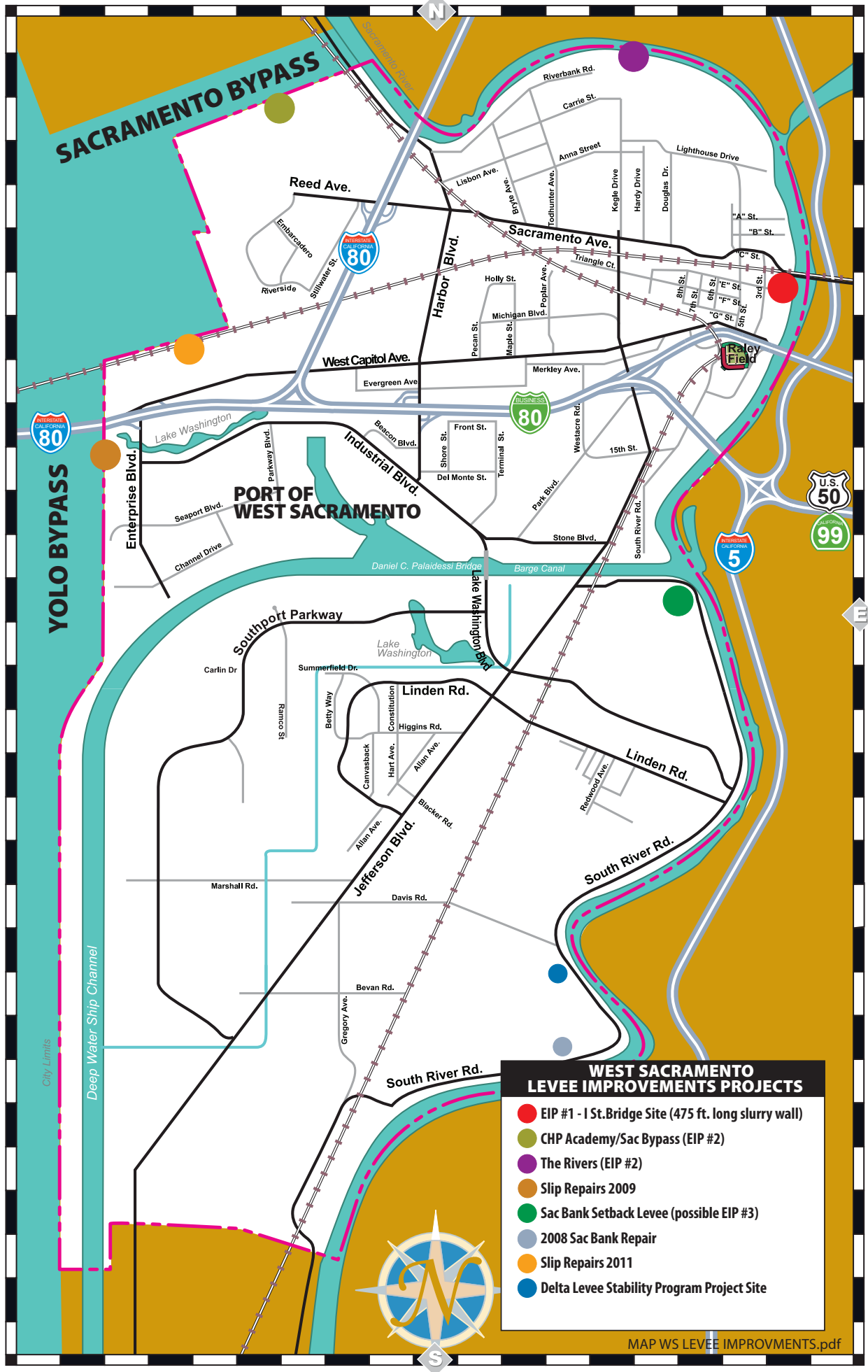
Staff recommends that the Board approves sending the draft letter (Attachment C), subject to revisions by the Board Executive Officer, to the Sacramento District USACE, requesting Section 104 credit for State and local funds to be expended on the Federal flood control project levee system along the Sacramento Bypass South Levee and a portion of the Sacramento River West Levee to be used for construction during the summer of 2011.

8.0 - LIST OF ATTACHMENTS

- A. Location map
- B. Letter from WSAFCA to Board dated March 29, 2010
- C. Draft letter from Board to USACE requesting Section 104 credit

WEST SACRAMENTO LEVEE IMPROVEMENTS

Location Map



March 29, 2010

Jay Punia, Executive Officer
Central Valley Flood Protection Board
3310 El Camino Ave., Suite LL40
Sacramento, CA 95821

**Subject: Requesting Federal Credit for Levee Strengthening
West Sacramento Levee Improvement Program**

Dear Mr. Punia:

This letter is submitted by the West Sacramento Area Flood Control Agency (WSAFCA) to seek support from The California Central Valley Flood Protection Board (Flood Protection Board) for addressing levee strengthening along portions of the Federal project levee system that protects the City of West Sacramento in Yolo County, California. Specifically, WSAFCA is requesting the Flood Protection Board to approve issuance of a letter requesting Federal credit to allow improvement work along the Sacramento Bypass South Levee and a portion of the Sacramento River West Levee to be constructed during the summer of 2011.

This work would constitute part of the larger West Sacramento Levee Improvement Program (WSLIP) that is aimed at providing the City of West Sacramento with 200-year urban standard flood protection. The proposed improvements would be consistent with the objectives of the West Sacramento Project and should qualify for credit that would reduce future non-Federal contributions to the project.

The specific elements encapsulated in the Phase 1A Project require applications for encroachment permits because they will become an integral part of the existing Federal Project levee. Based on this information, WSAFCA believes that the Phase 1 projects and the WSLIP as a whole meet the following criteria:

- These improvements are critically needed to protect the people and property at risk in the City of West Sacramento and will contribute to reducing the State's liability for flood damages. WSAFCA has imposed a special benefit assessment on properties within the 200-year floodplain to finance the local share of the cost of constructing and maintaining the improvements and funding has been appropriated by the State through the Capital Outlay program to cover the State's share of the cost through Proposition 1E. In addition, WSAFCA's program includes a development impact fee to ensure that new development in the 200-year floodplain does not substantially increase the expected damage of an uncontrolled flood.

- WSAFCA is currently developing and will circulate a Draft Environmental Impact Statement and Environmental Impact Report broadly evaluating the NLIP and providing a programmatic analysis of the WSLIP and project specific analysis of the impacts of the Phase 1A construction Projects. The Final Environmental Impact Report for the Phase 1 Project, which includes Phase 1A, is expected to be certified by the WSAFCA Board of Directors at its meeting in August 2010.
- WSAFCA is preparing an Economic Risk Analysis Report. Although the draft report has not been issued preliminary results indicate that the program as a whole is economically feasible based on current cost estimates for the planned improvements, the amount of damageable property that would be protected in the City of West Sacramento, the amount of damage that would likely occur in a single uncontrolled flood event, and the current annual risk of such an uncontrolled flood.
- WSAFCA believes that the Phase 1A Projects and the WSLIP as a whole will qualify for Federal credit under Section 104 of the Water Resources Development Act of 1986 and the crediting language recently adopted by Congress in Section 130 of House Report 110-497 (providing appropriations for various Federal programs for fiscal year 2008). This language states that the non-Federal interest shall receive credit toward the non-Federal share for expenses that the non-Federal interest incurs for design or construction of any authorized project feature, including credit for work commenced before the date of execution of a cooperation agreement for the affected feature. WSAFCA anticipates that the USACE will complete a General Re-evaluation Report for submittal to Congress in 2012.
- Finally, WSAFCA has adopted a slow rise flood plan that considers the existing condition of the levees protecting the City and includes revised flood elevation triggers that will be considered when determining if an evacuation is needed during flood conditions. Furthermore, WSAFCA has developed flood emergency preparedness mapping that shows the most viable evacuation routes if uncontrolled flooding does occur in the City of West Sacramento.

For these reasons, WSAFCA believes the WSLIP and more specifically the Phase 1A Projects are worthy of the Flood Protection Board's support. Accordingly, we request the Board's cooperation in issuing a letter requesting Federal credit for the Phase 1A Projects and in processing our application for an encroachment permit for this work so that it can be constructed in 2011.

If you have any questions in this regard, please don't hesitate to give me a call.

Sincerely,

West Sacramento Area Flood Control Agency



Kenneth A. Ruzich
WSAFCA General Manager

CENTRAL VALLEY FLOOD PROTECTION BOARD

3310 El Camino Ave., Room 151
SACRAMENTO, CA 95821
(916) 574-0609 FAX: (916) 574-0682
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July 23, 2010

Colonel Thomas C. Chapman
District Engineer
Sacramento District
U.S. Army Corps of Engineers
1325 J Street
Sacramento, California 95814-2922

Dear Colonel Chapman:

In the enclosed letter, dated March 29, 2010, the West Sacramento Area Flood Control Agency (WSAFCA) has requested that the Central Valley Flood Protection Board (Board), non-federal sponsor of the West Sacramento Levee Improvement Program (WSLIP), support WSAFCA's plan to proceed with The Rivers Project along the Sacramento River West levee and the CHP Academy Project along the Sacramento Bypass South levee in the spring of 2011. In the expectation that the U.S. Army Corps of Engineers (USACE) will grant permission to alter the project levees, the Board hereby requests Section 104 credit for construction of these project elements in 2011. Under Section 104, Public Law 99-662, a non-federal sponsor constructing a flood control project can receive credit for work that is compatible with a future federal project.

The proposed work would constitute part of the larger WSLIP, which is aimed at constructing improvements over the next several years which will provide the City of West Sacramento with 200-year urban flood protection. The specific work elements will be conducted in the area currently being studied by the West Sacramento Project General Reevaluation Report (GRR). Therefore, I believe the work is compatible with the GRR and WSAFCA's request is consistent with the USACE policy regarding Section 104 credit.

WSAFCA is proposing to reduce the risk of flooding in the City of West Sacramento by addressing through-seepage and under-seepage potential deficiencies in portions of the Sacramento River West Levee and the Sacramento Bypass South levee through improvements that can be implemented in 2011. The need for these improvements was initially identified in the Phase 1 Geotechnical Evaluation Report (P1GER) West Sacramento Region (November 2007), which was prepared by The California Department of Water Resources and URS. This report documents the potential for destabilizing seepage through the levee embankments during periods of high flow in the Sacramento River and the Sacramento Bypass. The report also indicates that because the levees are constructed on low permeability foundation soil (silt and clay) underlain by a higher permeability layer (sand and gravel), such high flow conditions can cause destabilization seepage under the levee. Both forms of seepage have the potential to cause the levee to fail in flood events with slightly greater than a one-percent annual risk of occurrence.

Colonel Thomas C. Chapman
July 30, 2010
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The specific project elements included in The Rivers and the CHP Academy Projects for which the Board is requesting Section 104 credit are as follows:

The Rivers-

The work along the Sacramento River West Levee extent is 3,000-feet long. The levee improvement plan includes a combination of levee reconstruction measures necessary to correct seepage, stability, levee geometry, vegetation, and encroachment issues. The primary levee reconstruction measures will include installation of a seepage cutoff barrier along the entire extent of the project, as well as levee grading, including slope flattening, to correct slope stability issues identified. Encroachments and vegetation within the project site will be removed or reconfigured, as necessary, to comply with current USACE and CVFPB policy. In addition to levee improvement features the project includes installation of recreation trails and interpretive signage along the waterside berm.

CHP Academy-

The levee segment selected for improvement along the Sacramento Bypass South Levee extends from the Sacramento Weir 5620 ft west along the south levee of the Sacramento Bypass. The levee improvement plan includes levee reconstruction measures necessary to correct seepage, stability and geometry deficiencies. The project proposes slope flattening and installation of a cutoff wall to correct for stability and seepage deficiencies, respectively. Vegetation within the project extents will be modified, as needed, to comply with current USACE policy.

The Board believes the above effort will be an essential step towards providing a 200-year level of protection to residents living within the City of West Sacramento and a worthy investment into the federal levees. The work proposed for 2011 Construction Projects is within the scope of the USACE GRR for the West Sacramento Project, and it is anticipated that these improvements will be incorporated in the federally recommended project features. Because delay of this work could pose a risk to life and property, WSAFCA has elected to perform the work without delay. We respectfully request the USACE grant section 104 credit for this urgent work. Additional support information for the Section 104 request is attached.

If you have any questions, please call me at (916) 574-0609, or your staff may contact Robert E. Scarborough, Chief, USACE/CVFPB Feasibility Studies Section Department of Water Resources at (916) 574-1042

Sincerely,

Jay S. Punia, P.E.
Executive Officer

Colonel Thomas C. Chapman

July 30, 2010

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Attachment

cc: Mr. Kenneth A. Ruzich, General Manager
West Sacramento Area Flood Control Agency
1110 West Capitol Avenue, Second Floor
West Sacramento, CA 95691